

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number
WO 2004/022025 A1

- (51) International Patent Classification⁷: **A61K 7/48**
- (21) International Application Number: **PCT/EP2003/009382**
- (22) International Filing Date: 21 August 2003 (21.08.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/408,598 6 September 2002 (06.09.2002) US
- (71) Applicant (for AE, AG, AU, BB, BZ, CA, CY, GB, GD, GH, GM, IE, IL, KE, LC, LK, LS, MN, MW, NZ, OM, PG, SC, SD, SG, SL, SZ, TT, TZ, UG, VC, ZA, ZM, ZW only): **UNILEVER PLC [GB/GB]; Unilever House, Blackfriars, London EC4P 4BQ (GB).**
- (71) Applicant (for AL, AM, AT, AZ, BA, BE, BF, BG, BJ, BR, BY, CF, CG, CH, CI, CM, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, FR, GA, GE, GN, GQ, GR, GW, HR, HU, ID, IS, IT, JP, KG, KP, KR, KZ, LR, LT, LU, LV, MA, MC, MD, MG, MK, ML, MR, MX, MZ, NE, NI, NL, NO, PH, PL, PT, RO, RU, SE, SI, SK, SN, SY, TD, TG, TJ, TM, TN, TR, UA, UZ, VN, YU only): **UNILEVER NV [NL/NL]; Weena 455, NL-3013 AL Rotterdam (NL).**
- (71) Applicant (for IN only): **HINDUSTAN LEVER LIMITED [IN/IN]; Hindustan Lever House, 165/166 Backbay Reclamation, Maharashtra, 400 020 Mumbai (IN).**

(72) Inventor: **PADLO, Ewa, Urszula; Unilever Home & Personal Care USA, 40 Merritt Boulevard, Trumbull, CT 06611 (US).**

(74) Agents: **MULDER, Cornelis, Willem, Reinier et al.; Unilever PLC, Patent Department, Colworth House, Sharnbrook, Bedford, Bedfordshire MK44 1LQ (GB).**

(81) Designated States (national): **AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT (utility model), PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.**

(84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/022025 A1

(54) Title: PERSONAL CARE TOWELETTE TABLET

(57) Abstract: A towelette tablet product, which can also be a mask, is provided which includes a water-insoluble web compressed into a tablet form, the web fully extended having a major surface area greater than 10 times a total surface area of the tablet, and a personal care composition formulated into the tablet. When placed into water, the tablet allows the web to open in a fully extended manner. A variety of skin benefit agents formulated into the composition can then be transferred to the skin of a user through contact with the web.

- 1 -

PERSONAL CARE TOWELETTE TABLET

The invention relates to a towelette or mask compressed into
5 a tablet which reconstitutes into its original expanded form
when placed into an aqueous media.

Unit dose personal care products have become quite popular.
Among the reasons for such popularity is easy transport
10 rendering their use available outside the home. Unit dose
formats are also exciting in their novel appearance.
Sometimes the unit dose delivers a personal care composition
impregnated on a cloth which cooperates with the composition
in delivering a skin or hair benefit. Wipe articles
15 utilizing impregnated cloths have proven quite popular.
Another type of unit dose product is being sold by Awake
International, Inc. in the form of a compressed tablet. The
company recommends that the tablet be placed into a lotion
filled cap of a lotion bottle. The tablet expands and
20 absorbs liquid from the lotion. A towelette is thereby
liberated from the tablet.

A problem with the Awake International, Inc. technology is
necessity for access to a lotion bottle or similar bulk
liquid cosmetic. There is a need to improve this unit dose
25 delivery concept.

In a first aspect, the invention provides atowelette product
which includes:

- (i) a water-insoluble web compressed into a tablet form,
the web fully extended having a major surface area

- 2 -

greater than 10 times a total surface area of the tablet; and

- (ii) a personal care composition formulated into the tablet.

5

Now it has been found that formulating a personal care composition into or onto a water-insoluble web of a towelette compressed into tablet form achieves a unit dose more efficient than the nearest technology. A source of 10 water is the only extrinsic element necessary to re-activate the system. Besides the ready-to-use aspect, formulated towelette tablets allow for uniform distribution of personal care composition ingredients throughout the towelette.

Another particularly beneficial feature of this invention is 15 that the personal care composition serves as a binder to better achieve tablet integrity. Moreover, use of the personal care composition assists in the manufacturing process. Lower temperatures and pressures can be utilized to form the tablet than in situations where there is no 20 personal care composition present.

A first necessary aspect of the present invention is that of a towelette web known hereinafter also as a substrate. A wide variety of materials can be used as a substrate. Among the desirable characteristics are that of sufficient wet 25 strength for use, appropriate size, and non-reactivity with components of any impregnated personal care composition.

- 3 -

- Non-limiting examples of suitable substrates which meet the above criteria include non-woven substrates, woven substrates, hydro-entangled substrates, air entangled substrates and the like. Preferred embodiments employ non-
5 woven substrates since they are economical and readily available in a variety of materials. By non-woven is meant that the layer is comprised of fibers which are not woven into a fabric but rather are formed into a sheet, particularly a tissue. The fibers can either be random
10 (i.e., randomly aligned) or they can be carded (i.e. combed to be oriented in primarily one direction). Furthermore, the non-woven substrate can be composed of a combination of layers of random and carded fibers.
- 15 Non-woven substrates may be comprised of a variety of materials both natural and synthetic. By natural is meant that the materials are derived from plants, animals, insects or by-products. By synthetic is meant that the materials are obtained primarily from various man-made materials or
20 from material that is usually a fibrous web comprising any of the common synthetic or natural textile-length fibers, or mixtures thereof.
- Non-limiting examples of natural materials useful in the present invention are silk fibers, keratin fibers and cellulosic fibers. Non-limiting examples of keratin fibers include those selected from the group consisting of wool fibers, camel hair fibers, and the like. Non-limiting examples of cellulosic fibers include those selected from
30 the group consisting of wood pulp fibers, cotton fibers,

- 4 -

hemp fibers, jute fibers, flax fibers, and mixtures thereof. Wood pulp fibers are preferred.

Non-limiting examples of synthetic materials useful in the present invention include those selected from the group consisting of acetate fibers, acrylic fibers, cellulose ester fibers, modacrylic fibers, polyamide fibers, polyester fibers, polyolefin fibers, polyvinyl alcohol fibers, rayon fibers and mixtures thereof. Examples of some of these synthetic materials include acrylics such as Acrilan[®], Creslan[®], and the acrylonitrile-based fiber, Orlon[®]; cellulose ester fibers such as cellulose acetate, Arnel[®], and Acele[®]; polyamides such as Nylons (e.g., Nylon 6, Nylon 66 and Nylon 610); polyesters such as Fortrel[®], Kodel[®], and the polyethylene terephthalate fibers, Dacron[®]; polyolefins such as polypropylene, polyethylene; polyvinyl acetate fibers and mixtures thereof.

Non-woven substrates made from natural materials consist of webs most commonly formed on a fine wire screen from a liquid suspension of the fibers.

Substrates made from natural materials useful in the present invention can be obtained from a wide variety of commercial sources. Non-limiting examples of suitable commercially available paper useful herein include Airtex[®], an embossed airlaid cellulosic layer available from James River Corporation, Green Bay, WI; and Walkisoft[®], an embossed

- 5 -

airlaid cellulosic available from Walkisoft U.S.A., Mount Holly, NC.

Non-woven substrates made from synthetic materials useful in
5 the present invention can also be obtained from a wide variety
of commercial sources. Non-limiting examples of suitable non-
woven layer materials useful herein include HEF 40-047, an
apertured hydro-entangled material containing about 50 % rayon
and 50 % polyester, available from Veratec, Inc., Walpole, MA;
10 HEF 140-102, an apertured hydro-entangled material containing
about 50 % rayon and 50 % polyester, available from Veratec,
Inc., Walpole, MA; Novenet[®] 149-191, a thermo-bonded grid
patterned material containing about 69 % rayon, about 25 %
polypropylene, and about 6 % cotton, available from Veratec,
15 Inc., Walpole, MA; HEF Nubtex[®] 149-801, a nubbed, apertured
hydro-entangled material, containing about 100 % polyester,
available from Veratec, Inc. Walpole, MA; Keybak[®] 951V, a dry
formed apertured material, containing about 75 % rayon and
about 25 % acrylic fibers, available from Chicopee
20 Corporation, New Brunswick, NJ; Keybak[®] 1368, an apertured
material, containing about 75 % rayon and about 5 % polyester,
available from Chicopee Corporation, New Brunswick, NJ;
Duralace[®] 1236, an apertured, hydro-entangled material,
containing about 100 % rayon, available from Chicopee
25 Corporation, New Brunswick, NJ; Duralace[®] 5904, an apertured,
hydro-entangled material, containing about 100 % polyester,
available from Chicopee Corporation, New Brunswick, NJ;
Sontara[®] 8868, a hydro-entangled material, containing about 50

- 6 -

% cellulose and about 50 % polyester, available from Dupont Chemical Corp.

The substrates of the present invention can comprise two or
5 more layers, each having a different texture and abrasiveness. The differing textures can result from the use of different combinations of materials or from the use of a substrate having a more abrasive side for exfoliation and a softer, absorbent side for gentle cleansing. In
10 addition, separate layers of the substrate can be manufactured to have different colors, thereby helping the user to further distinguish the surfaces.

Personal care compositions of the present invention will be deposited onto or impregnated into the towelettes of the
15 present invention. Deposition or impregnation may be achieved either through wet or dry processing. When wet processed, the personal care compositions can be suspended in an aqueous vehicle with the substrate web being immersed therein. Downstream from the immersion, the web can be
20 dried via an oven to remove at least some water, prior to compaction.

Alternatively, the web can receive the personal care composition as a semi-solid or waxy coating which requires no elimination of water or other solvent vehicle. The semi-
25 solid or waxy composition can be applied by pressure roller or print technique (e.g. gravure, thermal printing, screen process) onto the substrate web. In a still further process variant, the composition can be dosed directly into a pressurized press during compaction of a substrate web.

- 7 -

Amounts of the personal care composition relative to the substrate web may range from about 100:1 to about 1:100, preferably from about 10:1 to about 1:10, optimally about 2:1 to about 1:2 by weight.

5 Personal care compositions of the present invention may have from 0 to about 99 %, preferably from about 0.1 % to about 50 % of a skin benefit agent and from about 1 % to about 99.9 % of a cosmetically acceptable carrier.

10 Suitable skin benefit agents can include natural botanical ingredients, vitamins, keratolytic agents, anti-microbials, astringent salts, sunscreens, enzymes, self-tanners, skin whitening agents and combinations thereof.

15 Natural botanical ingredients may include plant purees and extracts. Representative of this group are: chamomile, safflower, echinacea, St. John's Wort, sage, willow herb, yucca, green tea, rosmarin and combinations thereof.

20 Amounts may range from about 0.0001 % to about 5 %, preferably from about 0.0001 % to about 1 %, optimally from about 0.001 % to about 0.5 % by weight of the personal care composition.

Vitamins include retinol, retinoic acid, retinol acid esters (e.g. retinyl acetate, retinyl linoleate, retinyl palmitate and retinyl salicylate), niacinamide, nicotinic acid salts and esters, ascorbic acids, ascorbic acid derivatives (e.g. 25 ascorbyl tetraisopalmitate, magnesium ascorbyl phosphate and calcium ascorbate), folic acid, tocopherol, tocopheryl derivatives (e.g. tocopheryl acetate, tocopheryl palmitate

- 8 -

and tocopheryl nicotinate), panthenol, panthenic derivatives and combinations thereof. Amounts of these vitamins may range from about 0.00001 % to about 5 %, preferably from about 0.0001 % to about 2 %, optimally from about 0.001 % to 5 about 0.5 % by weight of the personal care composition.

- Keratolytic agents include the alpha-hydroxy and beta-hydroxy carboxylic acids, as well as esters, lactones and salt derivatives thereof. Illustrative of this category are glycolic acid, lactic acid, malic acid, citric acid and 2-hydroxy octanoic acid. Suitable salts include triethanolammonium, ammonium and sodium salts of these acids. Lactones are represented by gluconolactone and glucarolactone. Illustrative of the beta-hydroxy carboxylic acids is salicylic acid and C₅-C₂₀ alkyl substituted salicylic acids such as n-octyl salicylic acid. Amounts of the hydroxy carboxylic acids may range from about 0.0001 % to about 20 %, preferably from about 0.1 % to about 10 %, optimally from about 0.5 % to about 8 % by weight of the personal care composition.
- 20 Preservatives can be formulated into the compositions. Representative preservatives include phenoxyethanol, methyl paraben, ethyl paraben, propyl paraben, butyl paraben, imidazolidinyl urea, sodium dehydroacetate, sodium benzoate, potassium sorbate, hydantoin derivatives, propionate salts and a variety of quaternary ammonium compounds (e.g. benzethonium chloride). Amounts of the preservatives may range from about 0.001 % to about 2 % by weight of the personal care composition.

- 9 -

Anti-microbial agents may be included in the compositions. Illustrative are triclosan, trichlocarban, Octopyrox® and zinc pyrithione. Amounts may range from about 0.01 % to about 5 %, preferably from about 0.1 % to about 0.5 % by weight of the personal care compositions.

Astringent salts may be included in the compositions. These will be aluminum, zirconium, zinc and metal salt combinations thereof. Illustrative are aluminum chlorohydrate, aluminum zirconium tetrachlorohydrex glycinate, activated aluminum chlorohydrate, zinc phenolsulfonate and combinations thereof. Amounts of these materials may range from about 0.01 % to about 10 %, preferably from about 0.1 % to about 4 % by weight of the personal care composition.

Sunscreen actives may also be included in compositions of the present invention. Particularly preferred are such materials as ethylhexyl p-methoxycinnamate, available as Parsol MCX®, Avobenzene, available as Parsol 1789® and benzophenone-3, also known as Oxybenzone. Inorganic sunscreen actives may be employed such as microfine titanium dioxide, zinc oxide, polyethylene and various other polymers. Amounts of the sunscreen agents when present may generally range from 0.1 % to 30 %, preferably from 2 % to 20 %, optimally from 4 % to 10 % by weight.

Enzymes may be included in the present invention. Particularly preferred is superoxide dismutase, commercially available as Biocell SOD from the Brooks Company, USA. Other possible enzymes include lipases and proteases.

- 10 -

Self-tanning agents may be employed. Particularly useful for this purpose is dihydroxyacetone. Amounts of the self-tanning agents may range from about 0.01 % to about 10 %, preferably from about 1 % to about 5 % by weight of the
5 personal care composition.

Skin lightening agents may be included in the compositions of the invention. Illustrative substances are placental extract, lactic acid, niacinamide, arbutin, kojic acid, resorcinol and derivatives including 4-substituted
10 resorcinols and combinations thereof. Amounts of these agents may range from about 0.1 % to about 10 %, preferably from about 0.5 % to about 2 % by weight of the compositions.

Carriers may be utilized to deliver the various skin benefit agents. Suitable carriers include emollients, fatty acids,
15 fatty alcohols, humectants, thickeners, surfactants and combinations thereof. Amounts of the carriers may range from about 1 % to about 99.9 % by weight of the personal care compositions.

Emollient materials may serve as cosmetically acceptable
20 carriers. These may be in the form of silicone oils, synthetic esters and hydrocarbons. Amounts of the emollients may range anywhere from about 0.1 % to about 95 %, preferably between about 1 % and about 50 % by weight.

Silicone oils may be divided into the volatile and non-volatile variety. The term "volatile" as used herein refers to those materials which have a measurable vapor pressure at ambient temperature. Volatile silicone oils are preferably
25

- 11 -

chosen from cyclic (cyclomethicone) or linear polydimethylsiloxanes containing from 3 to 9, preferably from 4 to 5, silicon atoms.

Non volatile silicone oils useful as an emollient material 5 include polyalkyl siloxanes, polyalkylaryl siloxanes and polyether siloxane copolymers. The essentially non-volatile polyalkyl siloxanes useful herein include, for example, polydimethyl siloxanes with viscosities of from about 5×10^{-6} to $0.1 \text{ m}^2/\text{s}$ at 25°C . Among the preferred non-volatile 10 emollients useful in the present compositions are the polydimethyl siloxanes having viscosities from about 1×10^{-5} to about $4 \times 10^{-4} \text{ m}^2/\text{s}$ at 25°C .

Another class of non-volatile silicones are emulsifying and non-emulsifying silicone elastomers. Representative of this 15 category is Dimethicone/Vinyl Dimethicone Crosspolymer available as Dow Corning 9040, General Electric SFE 839, and Shin-Etsu KSG-18. Silicone waxes such as Silwax WS-L (Dimethicone Copolyol Laurate) may also be useful.

Among the suitable ester emollients are:

- 20 (1) Alkenyl or alkyl esters of fatty acids having 10 to 20 carbon atoms. Examples thereof include isoarachidyl neopentanoate, isononyl isonanonoate, oleyl myristate, oleyl stearate, and oleyl oleate.
- 25 (2) Ether-esters such as fatty acid esters of ethoxylated fatty alcohols.

- 12 -

- (3) Polyhydric alcohol esters. Ethylene glycol mono and di-fatty acid esters, diethylene glycol mono- and di-fatty acid esters, polyethylene glycol (200-6000) mono- and di-fatty acid esters, propylene glycol mono- and di-fatty acid esters, polypropylene glycol 2000 monooleate, polypropylene glycol 2000 monostearate, ethoxylated propylene glycol monostearate, glyceryl mono- and di-fatty acid esters, polyglycerol poly-fatty esters, ethoxylated glyceryl mono-stearate, 1,3-butylene glycol monostearate, 1,3-butylene glycol distearate, polyoxyethylene polyol fatty acid ester, sorbitan fatty acid esters, and polyoxyethylene sorbitan fatty acid esters are satisfactory polyhydric alcohol esters. Particularly useful are pentaerythritol, trimethylolpropane and neopentyl glycol esters of C₁-C₃₀ alcohols.
- (4) Wax esters such as beeswax, spermaceti wax and tribehenin wax.
- (5) Sterols esters, of which cholesterol fatty acid esters are examples thereof.
- (6) Sugar ester of fatty acids such as sucrose polybehenate and sucrose polycottonseedate.

Hydrocarbons which are suitable cosmetically acceptable carriers include petrolatum, mineral oil, C₁₁-C₁₃ isoparaffins, polyalphaolefins, and especially

- 13 -

isohexadecane, available commercially as Permethyl 101A from Presperse Inc.

Fatty acids having from 10 to 30 carbon atoms may also be suitable as cosmetically acceptable carriers. Illustrative

5 of this category are pelargonic, lauric, myristic, palmitic, stearic, isostearic, hydroxystearic, oleic, linoleic, ricinoleic, arachidic, behenic and erucic acids.

Fatty alcohols having from 10 to 30 carbon atoms are another useful category of cosmetically acceptable carrier.

10 Illustrative of this category are stearyl alcohol, lauryl alcohol, myristyl alcohol and cetyl alcohol.

Humectants of the polyhydric alcohol-type can be employed as cosmetically acceptable carriers. Typical polyhydric

15 alcohols include glycerol, polyalkylene glycols and more

preferably alkylene polyols and their derivatives, including propylene glycol, dipropylene glycol, polypropylene glycol, polyethylene glycol and derivatives thereof, sorbitol, hydroxypropyl sorbitol, hexylene glycol, 1,3-butylene glycol, isoprene glycol, 1,2,6-hexanetriol, ethoxylated

20 glycerol, propoxylated glycerol and mixtures thereof. The amount of humectant may range anywhere from 0.5 % to 50 %, preferably between 1 % and 15 % by weight of the composition.

Thickeners can be utilized as part of the cosmetically

25 acceptable carrier according to the present invention.

Typical thickeners include crosslinked acrylates (e.g.

Carbopol 982®), hydrophobically-modified acrylates (e.g.

- 14 -

Carbopol 1382®), cellulosic derivatives and natural gums.

Among useful cellulosic derivatives are sodium carboxymethylcellulose, hydroxypropyl methocellulose, hydroxypropyl cellulose, hydroxyethyl cellulose, ethyl

5 cellulose and hydroxymethyl cellulose. Natural gums suitable for the present invention include guar, xanthan, sclerotium, carrageenan, pectin and combinations of these gums. Inorganics may also be utilized as thickeners, particularly clays such as bentonites and hectorites, fumed
10 silicas, and silicates such as magnesium aluminum silicate (Veegum®). Amounts of the thickener may range from 0.0001 % to 10 %, usually from 0.001 % to 1 %, optimally from 0.01 % to 0.5 % by weight.

Surfactants may also be present in cosmetic compositions of
15 the present invention. Total concentration of the surfactant when present may range from about 0.1 % to about 40 %, preferably from about 1 % to about 20 %, optimally from about 1 % to about 5 % by weight of the composition. The surfactant may be selected from the group consisting of anionic,
20 nonionic, cationic and amphoteric actives.

Particularly preferred nonionic surfactants are those with a C₁₀-C₂₀ fatty alcohol or acid hydrophobe condensed with from 2 to 100 moles of ethylene oxide or propylene oxide per mole of hydrophobe; C₂-C₁₀ alkyl phenols condensed with from 2 to 20
25 moles of alkylene oxide; mono- and di-fatty acid esters of ethylene glycol; fatty acid monoglyceride; sorbitan, mono- and di- C₈-C₂₀ fatty acids; and polyoxyethylene sorbitan as well as combinations thereof. Alkyl polyglycosides and saccharide

- 15 -

fatty amides (e.g. methyl gluconamides) are also suitable nonionic surfactants.

Preferred anionic surfactants include soap, alkyl ether sulfates and sulfonates, alkyl sulfates and sulfonates, 5 alkylbenzene sulfonates, alkyl and dialkyl sulfosuccinates, C₈-C₂₀ acyl isethionate, C₈-C₂₀ alkyl ether phosphates, C₈-C₂₀ sarcosinates and combinations thereof.

Colorants, fragrances, opacifiers and abrasives may also be included in compositions of the present invention. Each of 10 these substances may range from about 0.05 % to about 5 %, preferably between 0.1 % and 3 % by weight.

Water may be present as a carrier. However, in most instances compression requires that water and other highly volatile fluids be driven off. Thus, the compressed tablets 15 of this invention ordinarily will contain from 0 to about 10 %, preferably no higher than 5 %, optimally no higher than 1 % water.

Effervescent chemicals may also be incorporated into the composition and tablet. Sodium and potassium bicarbonate 20 are particularly suitable. Amounts may range from about 1 % to about 50 % by weight of the tablet product. Completed tablets upon being dropped into water will thereby be able to add a fizz phenomena.

Tablets according to the present invention are formed in a 25 conventional manner. The processes employed can be similar to those used in tabletting laundry detergents, denture

- 16 -

cleansers and antacids. For instance, the process can be conducted at temperatures ranging from about minus 20°C to about 200°C, preferably from about 0°C to about 40°C. Test quantities can be produced using an Instron Universal

- 5 Machine which drives a cylindrical steel punch into a cylindrical die. Pressures from about 2 to about 100 psi, most preferably between about 2 and about 10 psi and even higher amounts may be employed dependent upon the particular equipment utilized. For production scale machinery it may
10 be desirable to construct a mold in which tabletting occurs so that it incorporates channels for the circulation of liquid at the desired temperature. Alternatively the mold could be surrounded by an electric heating coil, controlled by a temperature sensor in contact with the mold.
- 15 The term "comprising" is meant not to be limiting to any subsequently stated elements but rather to encompass non-specified elements of major or minor functional importance. In other words the listed steps, elements or options need not be exhaustive. Whenever the words "including" or
20 "having" are used, these terms are meant to be equivalent to "comprising" as defined above.

Except in the operating and comparative examples, or where otherwise explicitly indicated, all numbers in this description indicating amounts of material ought to be

- 25 understood as modified by the word "about".

Examples

- 17 -

The following examples will more fully illustrate the embodiments of this invention. All parts, percentages and proportions referred to herein and in the appended claims are by weight unless otherwise illustrated.

5

Example 1

A skin care lotion in powdered form is prepared with components listed in Table I below.

10

TABLE I

Powdered Skin Care Lotion

Component	Relative Weight (parts)
Stearic Acid	2.5
PEG-6000	1.5
Sunflower Seed Oil	0.7
Glycerin	0.4
Sodium Stearoyl Lactylate	0.8

15

The powder is formed by placing all components into a beaker and heating to 80°C forming a liquid. A magnetic stirrer is used for mixing the combination. The liquid is then cooled to room temperature. Solidified material is removed from the 20 beaker and cut into small flakes. These flakes are then ground into a powder.

Powder is transferred to a hopper oriented above a moving web of damp cellulosic pulp towelette substrate. A film of powder is uniformly distributed onto the damped substrate as 25 the latter traverses beneath the hopper. Powder clings to

- 18 -

the wetted substrate. Further downstream, the substrate is cut into a 20 cm diameter circle. A mask towelette is achieved by cutting out two eye areas and a mouth area. In other embodiments wherein the towelette is not utilized as a
5 facial mask, it can be rectangular with dimensions such as 20 cm (length) by 15 cm (width). The towelette substrate is a single layer cellulosic wood pulp construction. Once the towelette or mask is formed, the personal care impregnated substrate is compressed within a Carver press at about 20 psi
10 forming a round tablet 2 cm in diameter and 0.8 cm in width.

Release of the mask from the tablet is accomplished by placing the tablet in a cup with 50 ml water. When in mask form, the water expanded mask can be placed over a user's face and allowed to dry. The personal care composition
15 impregnated onto the mask will then transfer to the user's face.

Example 2

Another towelette tablet is manufactured similar to the
20 process described in Example 1. The personal care composition is however altered to the components listed in Table II.

- 19 -

TABLE II

Component	Relative Weight (parts)
Sodium Stearate	3.3
Sucrose Polybehenate	1.5
Cocamidopropyl Betaine	0.9
Cetyl Alcohol	0.8
Mineral Oil	0.8
Silicone Oil	0.3
Cyclodextrin	0.2
Colorant (FD&C Red 4)	0.00195
Perfume	0.25

Example 3

Still another skin cream composition is impregnated into a
 5 towelette according to the present invention. In this Example, the impregnating formulation is a wet one which is evenly distributed over the surface of a cellulosic pulp towelette substrate. Subsequent to being impregnated with the skin cream liquid, the towelette is dried in an oven to
 10 remove almost all the water leaving behind a uniform distribution of skin benefit agents and non-volatile carriers. Thereafter, the dried towelette is compressed into a tablet. The impregnated formulation (absent the water carrier) is listed in Table III.

- 20 -

TABLE III

Component	Relative Weight (parts)
Niacinamide	5.00
Sodium Glycolate	5.00
Polysilicone-11	2.00
Isopropyl Isostearate	1.33
Arlatone 2121 ¹	1.00
Cetyl Alcohol CO-1695	0.72
SEFA Cottonate ²	0.67
Tocopherol Acetate	0.50
Panthenol	0.50
Stearyl Alcohol	0.48
Titanium Dioxide	0.40
Disodium EDTA	0.10
PEG-100 Stearate	0.10
Stearic Acid	0.10

¹ Sorbitan Monostearate and Sucrococoate, ICI Americas Inc.,
Wilmington, DE

5 ² Sucrose ester of fatty acid

Example 4

A cleanser composition according to this invention is prepared by the wet process outlined in Example 3. The impregnated 10 composition is found in Table IV. Water is driven off from the towelette substrate by drying in an oven. Thereafter, the towelette is compressed into a tablet.

- 21 -

TABLE IV

Component	Relative Weight (parts)
Tribehenin	5.00
Maleated Soybean Oil	5.00
Silicone Urethane	1.00
Polyglycerol-4 Oleate	1.00
Sodium C14-16 Olefin Sulfonate	5.00
Sodium Lauryl Ether Sulphate	5.00
Cocoamidopropylbetaine	5.00
Polyquaternium-11	1.00

The foregoing description and examples illustrate selected
5 embodiments of the present invention. In light thereof
variations and modifications will be suggested to one
skilled in the art, all of which are within the spirit and
purview of this invention.

- 22 -

CLAIMS

1. A towelette tablet product comprising:
 - (i) a water-insoluble web compressed into a tablet form, the web fully extended having a major surface area greater than 10 times a total surface area of the tablet; and
 - (ii) a personal care composition formulated into the tablet.
- 10 2. The product according to claim 1 wherein the personal care composition comprises from about 0 to about 50 % of a skin benefit agent and from about 1 % to about 99.9 % of a cosmetically acceptable carrier, by weight of the personal care composition.
- 15 3. The product according to claim 1 or claim 2 wherein the personal care composition and the web are present in a relative weight ratio ranging from about 100:1 to about 1:100.
- 20 4. The product according to any of the preceding claims wherein the personal care composition and the web are present in a relative weight ratio ranging from about 2:1 to about 1:2.
- 25 5. The product according to any of the preceding claims wherein water is present in a range from about 0 to about 10 % by weight of the tablet.

- 23 -

6. The product according to any of the preceding claims further comprising from about 1 % to about 50 % of an effervescent chemical by weight of the tablet product.
- 5 7. The product according to claim 6 wherein the effervescent chemical is a bicarbonate salt.

INTERNATIONAL SEARCH REPORT

International	Location No
PCT/EP 03/09382	

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K7/48

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A61Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

CHEM ABS Data, WPI Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT
--

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CH 430 926 A (J. EICHHORN-SCHNELL) 28 February 1967 (1967-02-28) the whole document ---	1-5
X	FR 2 725 145 A (M. RENAUD) 5 April 1996 (1996-04-05) the whole document ---	1-5
X	US 4 156 592 A (L. WOOD) 29 May 1979 (1979-05-29) the whole document ---	1-5

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority, claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the International filing date but later than the priority date claimed

T later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

5 December 2003

Date of mailing of the International search report

02/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Glikman, J-F

INTERNATIONAL SEARCH REPORT

International	ation No
PCT/EP 03/09382	

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Derwent Publications Ltd., London, GB; AN 2000-376822 XP002263665 & BR 9 800 942 A (G. BANNITZ ET AL.), 14 March 2000 (2000-03-14) abstract ----	1-7
X	EP 0 980 926 A (IMECO EINWEGPRODUKTE GMBH) 23 February 2000 (2000-02-23) claim 1; figure 2 ----	1-7
A	WO 00 36217 A (KIMBERLY-CLARK WORLDWIDE INC.) 22 June 2000 (2000-06-22) claim 1; table 1 ----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International	Application No
PCT/EP	03/09382

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
CH 430926	A	28-02-1967	CH	659064 A		
FR 2725145	A	05-04-1996	FR	2725145 A1		05-04-1996
US 4156592	A	29-05-1979		NONE		
BR 9800942	A	14-03-2000		NONE		
EP 980926	A	23-02-2000	DE	19837648 A1	27-04-2000	
			AT	215627 T	15-04-2002	
			DE	59901101 D1	08-05-2002	
			EP	0980926 A1	23-02-2000	
WO 0036217	A	22-06-2000	US	6432272 B1	13-08-2002	
			AU	1526000 A	03-07-2000	
			CA	2352843 A1	22-06-2000	
			EG	22131 A	30-08-2002	
			EP	1147259 A1	24-10-2001	
			WO	0036217 A1	22-06-2000	